CLAIMS

What is claimed is:

1.   A computer system, comprising:

a portable computer, including:

a CPU;

a system memory coupled to said processor;

a bridge logic device coupled to said CPU;

control logic coupled to said bridge logic device; and

a peripheral bus coupled to said bridge logic device and an interface connector; and

an expansion device having an interface connector that mates with the interface connector

of said portable computer to permit the portable compute to be docked to and

undocked from said expansion device while the portable computer is powered on

and fully operational;

said control logic receiving an expansion device detection input signal and said control

logic detects a transition in the expansion device detection input signal level when

the portable computer is docked to or undocked from said expansion device.

2.   The computer system of claim 1 wherein said control logic asserts a control logic system

management interrupt signal to said bridge logic device upon detecting a change in the level of the

expansion device detection signal so that that bridge logic device will initiate a sequence of events

that will permit the portable computer to communicate with the expansion device if docking has

occurred or disable communication with the expansion device if the portable computer is undocked

from the expansion device.

1 3.   The computer system of claim 1 wherein said portable computer also includes an

2 expansion device power switch that switches power on to said expansion device when the portable

3 computer is docked to said expansion device thereby causing the expansion device detection input

4 signal to change state.

1 4.   The computer system of claim 2 wherein said bridge logic device asserts an interrupt signal

2 to said CPU upon detecting an asserted control logic system management interrupt signal, said

3 CPU responds by executing code that determines that said portable computer has been docked to or

4 undocked from said expansion device.

1 5.   The computer system of claim 4 wherein said bridge logic device electrically couples to

2 said expansion device via a data bus that is disables when said portable computer is not docked to

3 said expansion device and said CPU directs said bridge logic device to enable said data bus when

4 said CPU receives the interrupt signal from said bridge logic device.

1 6.   The computer system of claim 5 wherein the interrupt signal from said bridge logic device

2 to said CPU is a system management interrupt signal.

1 7.   The computer system of claim 5 wherein said expansion device includes at least one

2 storage devices and said data bus comprises an Integrated Drive Electronics bus.

1   8.   The computer system of claim 1 wherein said expansion device comprises a drive wedge

2   that contains at least one storage device said computer system further comprises a port replicator

3   that provides connections to various peripheral devices and having an electrical connector to said

4   drive wedge, and said portable computer capable of being docked to said port replicator while said

5   portable computer is powered on and fully operational.

1   9.   The computer system of claim 8 wherein said control logic receives a port replicator

2   attached input signal that indicates whether said portable computer is docked to said port replicator.

1   10.   The computer system of claim 9 wherein said port replicator attached input signal to the

2   control logic is in the logic high state when the portable computer is not docked to the port

3   replicator, and, when the portable computer couples to the port replicator, the port replicator forces

4   the port replicator attached input signal to the control logic to the logic low state.

1   11.   The computer system of claim 10 wherein said control logic determines that said portable

2   computer has been docked to said port replicator when said control logic detects the port replicator

3   attached input signal at the logic low state.

1   12.   The computer system of claim 11 wherein said control logic asserts a control logic system

2   management interrupt signal to said bridge logic device upon detecting a logic low state of the port

3   replicator attached input signal so that that bridge logic device will initiate a sequence of events

4   that will permit the portable computer to communicate with the port replicator.

1   13.   A portable computer that can be docked to a drive wedge and a port replicator while the

2   portable computer is on and fully functional, comprising:

3   a CPU;

4   a host bridge coupled to said CPU;

5   a secondary bridge device coupled to said CPU over a system bus;

6   a control logic coupled to said secondary bridge device over an expansion bus, said control

7   logic receiving WEDGED# input signal that indicates whether the drive wedge is

8   docked to the portable computer and a PRATTACHED# input signal that indicates

9   whether the port replicator is docked to the portable computer, both the WEDGED#

10   and PRATTACHED# input signals connected to pull-up resistors that forces the

11   WEDGED# and PRATTACHED# input signals to the control logic to be in the

12   logic high state when the drive wedge and port replicator are not docked to the

13   portable computer; and

14   code executed by said CPU following either or both of the WEDGED# and

15   PRATTACHED# input signals driven to the logic low state upon detecting docking

16   the portable computer to the drive wedge or port replicator, said code reconfigures

17   the portable computer to permit communications with the drive wedge or port

18   replicator when docked to the portable computer,

19   wherein said drive wedge and said port replicator can be docked to said portable computer

20   while said portable computer is on and fully operational.

1   14.   The portable computer of claim 12 further including a wedge power switch that switches

2   on power to the drive wedge when the drive wedge is docked to the portable computer, said wedge

3   power switch switched on by the WEDGED# input signal to the control logic.

1   15.   The portable computer of claim 12 wherein said control logic comprises a keyboard

2   controller.

1   16.   The portable computer of claim 12 further including a digital portion of a network interface

2   card coupled to the system bus, said digital portion including an initialization device select input

3   pin that permits the digital portion to be configured, and an AND gate whose output signal couples

4   to the initialization device select input pin and having an input pin that couples to an address line of

5   said system bus and another input pin coupling to the PRATTACHED# input signal to the control

6   logic, whereby for said digital portion to be configured, said address line must be asserted and said

7   PRATTACHED# must be low indicating that the port replicator has been docked to the portable

8   computer.

1   17.   A method of hot docking a computer to expansion equipment, comprising:

2   connecting a first expansion device to said computer;

3   switching on power to said first expansion device;

4   detecting a transition of a signal from said first expansion device indicating that the first

5   expansion device has been connected to said computer;

6   enabling a data bus that electrically couples the computer to the first expansion device.

1   18.   The method of claim 17 further including coupling a second expansion device to said

2   computer.

1   19.   The method of claim 18 further including detecting a transition of a signal from said second

2   expansion device indicating that the second expansion device has been connected to said computer.

1   20.   The method of claim 19 wherein said computer includes a configurable digital portion of a

2   network interface card and the second expansion device includes an analog portion of the network

3   interface card and said method further includes masking a configuration select input signal to said

4   digital portion to prevent the digital portion from responding to a configuration request when the

5   second expansion device is not connected to the computer.

1   21.   The method of claim 20 further including unmasking the configuration select input signal

2   to said digital portion to permit the digital portion to respond to a configuration request when the

3   second expansion device is connected to the computer.

1   22.   A portable computer, comprising:

2   a CPU;

3   a display coupled to said CPU;

4   a means for hot docking said portable computer to an expansion device while said portable

5   computer is on and fully operational.

1   23.   The portable computer of claim 22 wherein said means includes control logic that receives

2   an indication signal that is pulled high by way of a pull-up resistor when the portable computer is

3   not docked to the expansion device, and said indication is forced low when the portable computer

4   is hot docked to the expansion device.

1   24.   The portable computer of claim 23 wherein said means also includes a power switch that is

2   turned on to provide power to said expansion device when said expansion device is docked to said

3   portable computer, said power switch activated by said indication signal being forced low.

1   25.   The portable computer of claim 23 further including a bridge logic device coupled to said

2   control logic and providing a data bus to said expansion bus, and said CPU directs said bridge logic

3   device to enable said data bus after said indication signal is forced low.

1   26.   The portable computer of claim 25 wherein said control logic initiates a SMI to said CPU

2   to indicate when the portable computer is hot docked and undocked from said expansion device.